

## DECLARATION, POWER OF ATTORNEY AND PETITION

As the below named inventors, We hereby declare that:

Our residence, post office address and citizenship are as stated below next to our name.

We believe we are the original, first and joint inventors of the subject matter which is claimed and for which a patent is sought on the invention entitled **Method and System for Exclusive Two-Level Caching in a Chip-Multiprocessor** the specification of which

is attached hereto  
 was filed on \_\_\_\_\_ as Application Serial No. \_\_\_\_\_  
 and was amended on \_\_\_\_\_ (if applicable).

We hereby state that we have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

We acknowledge the duty to disclose information which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations, § 1.56(a).

We hereby claim foreign priority benefits under Title 35, United States Code, § 119 of any foreign application(s) or U.S. provisional application(s) for patent or inventor's certificate listed below and have also identified below any foreign application or U.S. provisional application(s) for patent or inventor's certificate having a filing date before that of the application of which priority is claimed.

## Prior Foreign/U.S. Provisional Application(s)

			Priority Claimed	
(Number)	(Country)	(Day, month, year filed)	<input type="checkbox"/>	<input type="checkbox"/>
(Number)	(Country)	(Day, month, year filed)	<input type="checkbox"/>	<input type="checkbox"/>
(Number)	(Country)	(Day, month, year filed)	<input type="checkbox"/>	<input type="checkbox"/>

We hereby claim the benefit under Title 35, United States Code, § 120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, § 112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, § 1.56(a) which occurred between the filing date of the prior application and the national or PCT international filing date of this application:

60/210,655 (Application Serial No.)	June 9, 2000 Filing Date	Pending (Status: Patented, pending, abandoned)
60/210,675 (Application Serial No.)	June 10, 2000 Filing Date	Pending (Status: Patented, pending, abandoned)

We hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

And I hereby appoint R.P. LANGE, REG. 27,296; T.S. PARK, REG. 26,971; L. BRUCCULERI, REG. 38,834; D. DROZENSKI, REG. 39,177; C.A.S. HAMRICK, REG. 22,586; R.O. GUILLOT, REG. 28,852; J. BOYCE, REG. 40,920; C. CHOU, REG. 41,672; A.B. DIEPENBROCK III, REG. 39,960; M.K. BOSWORTH, REG. 28,186; L. SHERRY, REG. 43,918; L. McROSS, REG. 40,427; T. KHAN, REG. 46,273; L. GUERNSEY REG. 40,008; M. HUGHES, REG. 29,077; R. ROBERTS,

*Declaration, Power of Attorney & Petition*

SV/207341.01  
05122001/10:29/18973.53

REG. 38,597; S. HOWELL, REG. 45,929; R. NADER, P47,260; B. COLEMAN, REG. 39,145; P. HICKMAN, REG. 28,516; B. KENNEDY, REG. 33,407; OPPENHEIMER WOLFF & DONNELLY LLP, 1400 Page Mill Road, Palo Alto, California 94304, (650) 320-4000, as my attorneys with full power of substitution and revocation, to prosecute said application and to transact in connection therewith all business in the Patent and Trademark Office and before competent International Authorities.

Address all telephone calls to Leah Sherry at (650) 320-4000 and address all correspondence to:

Leah Sherry, Esq.  
OPPENHEIMER WOLFF & DONNELLY LLP  
Customer 25696  
1400 Page Mill Road  
Palo Alto, California 94304-1124

Wherefore I pray that Letters Patent be granted to me for the invention or discovery described and claimed in the foregoing specification and claims, and I hereby subscribe my name to the foregoing specification and claims, declaration, power of attorney, and this petition.

Full Name of Sole or First Inventor: Luiz Andre Barroso

Home Address: 1980 California Street, #20, Mountain View, CA 94040

Post Office Address: Same as above

Citizenship: BRAZIL

Inventor's Signature: Luiz A P Date: 5-15-2001

Full Name of Second Inventor: Kourosh Gharachorloo

Home Address: 2260 Camino A Los Cerros, Menlo Park, CA 94025

Post Office Address: Same as above

Citizenship: IRAN

Inventor's Signature: Kourosh Gharachorloo Date: 5-15-2001

Full Name of Third Inventor: Andreas Nowatzky

Home Address: 938 Sunbonnet Loop, San Jose, CA 95125

Post Office Address: Same as above

Citizenship: GERMANY

Inventor's Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**- DECLARATION, POWER OF ATTORNEY AND PETITION**

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is attached hereto  
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*Declaration, Power of Attorney & Petition*

SV/207341.01  
05/22/2001/10:29/18973.53

REG. 38,597; S. HOWELL, REG. 45,929; R. NADER, P47,260; B. COLEMAN, REG. 39,145; P. HICKMAN, REG. 28,516; B. KENNEDY, REG. 33,407; OPPENHEIMER WOLFF & DONNELLY LLP, 1400 Page Mill Road, Palo Alto, California 94304, (650) 320-4000, as my attorneys with full power of substitution and revocation, to prosecute said application and to transact in connection therewith all business in the Patent and Trademark Office and before competent International Authorities.

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**OPPENHEIMER WOLFF & DONNELLY LLP**  
Customer 25696  
1400 Page Mill Road  
Palo Alto, California 94304-1124

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Full Name of Sole or First Inventor: Luiz Andre Barroso

Home Address: 1980 California Street, #20, Mountain View, CA 94040

Post Office Address: Same as above

Citizenship: BRAZIL

Inventor's Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Full Name of Second Inventor: Kourosh Gharachorloo

Home Address: 2260 Camino A Los Cerritos, Menlo Park, CA 94025

Post Office Address: Same as above

Citizenship: IRAN

Inventor's Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Full Name of Third Inventor: Andreas Nowatzky

Home Address: 938 Sunbonner Loop, San Jose, CA 95125

Post Office Address: Same as above

Citizenship: GERMANY

Inventor's Signature: A. Nowatzky Date: 5-26-2001

06-19-2001



PTO-1595

101751208

U.S. Department of Commerce

Docket No. 18973-53 (P00-3165)

PATENTS ONLY

PTO

To the Hon. Commissioner of Patents &amp; Trademarks: Please record the attached original documents or copy thereof.

1. Name of conveying party(ies):  
 Luiz Andre Barroso, Kourosh Gharachorloo and Andreas  
 Nowatzky  
 86/09/01

Additional name of conveying party attached?  Yes  No

3. Nature of conveyance:

Assignment  Merger  
 Security Agreement  Change of Name  
 Other: \_\_\_\_\_

Execution Date: May 15, 2001, May 26, 2001

2. Name and address of receiving party(ies):

Name: Compaq Computer Corporation

Internal Address: \_\_\_\_\_

Street Address: P.O. Box 69200

20555 SH 249

City: Houston State: Texas ZIP: 77070-2698

Additional name(s) and address(es) attached?  Yes  No

4. Application number(s) or patent numbers:

If this document is being filed together with a new application, the execution date of the application is: June 8, 2001

A. Patent Application No.(s)

09/877530

Additional numbers attached?  Yes  No

B. Patent No.(s)

5. Name and address party to whom correspondence concerning document should be mailed:

Name: Leah Sherry, Esq.

Internal Address: Oppenheimer, Wolff &amp; Donnelly, LLP

Street Address: 1400 Page Mill Road

City: Palo Alto State: California ZIP: 94304-1124

6. Total number of applications and patents involved: 1

7. Total fee (37 CFR 3.41) \$40.00

 Enclosed Any discrepancy or overpayment is authorized to be charged to deposit account

8. Deposit Account number:

02-3964

(Attach duplicate copy of this page if paying by deposit account)

DO NOT USE THIS SPACE

9. Statement and signature.

To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.

Leah Sherry, Reg. No. 43,918

Name of Person Signing

Signature

June 8, 2001

Date

Total number of pages including cover sheet, attachments, and document: 8

14/5001 14/5001 00000010 09877530

10:531 40.00 00

SV: 211832 v01 06/08/2001

ASSIGNMENT

WHEREAS, We, Luiz Andre Barroso, Kourosh Gharachorloo and Andreas Nowatzkyk, are joint inventors of **Method and System for Exclusive Two-Level Caching in a Chip-Multiprocessor** application for United States Letters Patent which is executed of even date herewith; and

WHEREAS, COMPAQ COMPUTER CORPORATION, a corporation created and existing under and by virtue of the laws of the State of Delaware, is desirous of acquiring the entire right, title and interest in and to the aforesaid invention throughout the world, and all right, title and interest in, to and under any and all Letters Patent of the United States and all other countries throughout the world;

NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, we hereby sell, assign, transfer and set over to COMPAQ COMPUTER CORPORATION, all right, title and interest in and to the said invention throughout the world, and said application for U.S. Letters Patent, and any and all divisions, continuations, and reissues thereof, and any and all Letters Patent of the United States and foreign countries which may be granted therefor, the same to be held and enjoyed by COMPAQ COMPUTER CORPORATION for its own use and benefit, and for the use and benefit of its successors, assigns, or other legal representatives to the end of the term or terms for which said Letters Patent of the United States or foreign countries are or may be granted or reissued, as fully and entirely as the same would have been held and enjoyed by us if this assignment and sale had not been made.

And we hereby authorize and request the Commissioner of Patents and Trademarks to issue any and all Letters Patent of the United States on said invention or resulting from said application and from any and all divisions, continuations, and reissues thereof, to COMPAQ COMPUTER CORPORATION, as assignee of our entire interest, and hereby covenant that we have the full right to convey the entire interest herein assigned, and that we have not executed and will not execute any agreement in conflict herewith.

And we further hereby covenant and agree that we will, at any time, upon request, execute and deliver any and all papers that may be necessary or desirable to perfect the title of said invention and to such Letters Patent as may be granted therefor, to COMPAQ COMPUTER CORPORATION, its successors, assigns, or other legal representatives and that if COMPAQ COMPUTER CORPORATION, its successors, assigns or other legal representative shall desire to file any divisional or continuation applications or to secure a reissued of such Letters Patent, or to file a disclaimer relating thereto, will upon request, sign all papers, make all rightful oaths and do all lawful acts requisite for the filing of such divisional or continuation application, or such application for reissue and the procuring thereof, and for the filing of such disclaimer, without further compensation but at the expense of said assignee, its successors, or other legal representatives.

And we do further covenant and agree that we will, at any time upon request, communicate to COMPAQ COMPUTER CORPORATION, its successors, assigns or other legal representatives, such facts relating to said invention and Letters Patent or the file history thereof

as may be known to us, and testify as to the same in any interference or other litigation when requested so to do, without further compensation but at the expense of said assignee, its successors, or other legal representatives.

Inventor's Signature:  Date: 5-15-2001  
Typed Name: Luiz Andre Barroso  
Home Address: 1980 California Street, #20, Mountain View, CA 94040  
Citizenship: BRAZIL

Inventor's Signature:  Date: 5-15-2001  
Typed Name: Kourosh Gharachorloo  
Home Address: 2260 Camino A Los Cerros, Menlo Park, CA 94025  
Citizenship: IRAN

Inventor's Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
Typed Name: Andreas Nowatzky  
Home Address: 938 Sunbonnet Loop, San Jose, CA 95125  
Citizenship: GERMANY

NOTARIAL CERTIFICATE

STATE OF CALIFORNIA )  
 )  
 ) ss.  
COUNTY OF SANTA CLARA )

On May 15, 2001 before me, Christine Subietas, a notary public, personally appeared Luiz Andre Barroso personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

Christine Subietas  
Notary Public

SEAL



## NOTARIAL CERTIFICATE

STATE OF CALIFORNIA )  
 ) ss.  
COUNTY OF SANTA CLARA )

On May 15, 2001 before me, Christina Subietas, a notary public, personally appeared Kavosh Ghazachorloo personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

Christine Schueler  
Notary Public

SEAL



as may be known to us, and testify as to the same in any interference or other litigation when requested so to do, without further compensation but at the expense of said assignee, its successors, or other legal representatives.

Inventor's Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
Typed Name: Luiz Andre Barroso  
Home Address: 1980 California Street, #20, Mountain View, CA 94040  
Citizenship: BRAZIL

Inventor's Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
Typed Name: Kourosh Gharachorloo  
Home Address: 2260 Camino A Los Cerros, Menlo Park, CA 94025  
Citizenship: IRAN

Inventor's Signature: A. Nowatzky Date: 5-26-2001  
Typed Name: Andreas Nowatzky  
Home Address: 938 Sunbonnet Loop, San Jose, CA 95125  
Citizenship: GERMANY

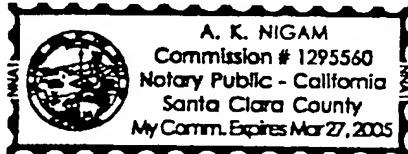
## NOTARIAL CERTIFICATE

STATE OF CALIFORNIA )  
 ) SS.  
COUNTY OF SANTA CLARA )

On 26<sup>th</sup> May 2001 before me, A.K. Nigam, a notary public, personally appeared Andreas G. Nowotnyk personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

SEAL



## Notary Public